

(Exhibit 28)

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Williams et al., U.S. Patent No., 4,766,064

(Exhibit 29)

Diamond et al., U.S. Patent No. 4,766,062

(Exhibit 30)

Urdea et al., U.S. Patent No. 5,124,246 issued June 23, 1992

(Exhibit 31)

Wetmur et al., U.S. Patent No. 5,958,681

(Exhibit 38)

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Form PTO-1449 U.S. Department of Commerce (REV. 8-83) Patent and Trademark Office  INFORMATION DISCLOSURE CITATION (use several sheets if necessary)	Atty. Docket No. ENZ-49(P2)(C)	Serial No. Unknown
	Applicants: James G. Wetmur et al.	
	Filed: herewith	Group: Unknown

1c978 U.S. PTO  
 09/898750  
 07/03/81

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPRO- PRIATE
	4 7 6 6 0 6 4	08/88	Williams et al.	435	6	05/07/84
	4 7 6 6 0 6 2	08/88	Diamond et al.	435	6	12/20/84
	5 1 2 4 2 4 6	06/92	Urdea et al.	435	6	04/18/89

## FOREIGN PATENT DOCUMENTS

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0 1 6 7 2 3 8	08/86	EP			
0 1 6 4 8 7 6	12/85	EP			
0 3 1 7 0 7 7 B1	1/31/96	EP			
W 8 0 1 7 3 0 O 7	03/26/87	PCT International			
W 8 0 6 4 1 2 O 6	11/06/86	PCT International			

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	Lee et al., "A Physical Study by Electron Microscopy of the Terminally Repetitious, Circularly Permuted DNA from the Coliphage Particles of <i>Escherichia coli</i> ," <u>Journal of Molecular Biology</u> 48:1-22 (1970)
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	5 9 5 8 6 8 1	09/99	Wetmur et al.	435	6	06/07/95

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W 8 1 1 5 4 8 O 9	11/30/89	PCT International			

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	Casey et al., <u>Nucleic Acids Research</u> 4:1539-1552 (1977)
	Radding et al., "Uptake of Homologous Single-stranded Fragments by Superhelical DNA", <u>Journal of Molecular Biology</u> 116:825-839 (1977)
	Corey et al., "Sequence-Selective Hydrolysis of Duplex DNA by an Oligonucleotide-Directed Nuclease," <u>J. Am. Chem. Soc.</u> 111:8523-8525 (1989)
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	Langer et al., "Enzymatic synthesis of biotin-labeled polynucleotides: Novel nucleic acid affinity probes," <u>Proc. Natl. Acad. Sci. (USA)</u> 78:6633-6637 (1981)
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	Vary et al., "Nonisotopic Detection Methods for Strand Displacement Assays of Nucleic Acids," <u>Clinical Chemistry</u> 32:1696-1701 (1986)
	Cox et al., "Directionality and polarity in recA protein-promoted branch migration," <u>Proc. Natl. Acad. Sci. (USA)</u> 78:6018-6022 (1981)
	Michelson et al., "Synthetic Polynucleotides" in <u>Prog. Nucleic Acids Research</u> 6:83-141
	Radding et al., "Enzymatic Synthesis of Deoxyribonucleic Acid", <u>Journal Biol. Chem.</u> 237:2869-2876 (1962)
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	Inmån, " <u>Journal of Molecular Biology</u> 9:624-637 (1964)
	Tatsumi et al., "Production of DNA bifilarly substituted with bromodeoxyuridine in the first round of synthesis: branch migration during isolation of cellular DNA", <u>Nucleic Acids Research</u> 5:331-347 (1978)
	Brown et al., "Cleavage specificity of the restriction endonuclease isolated from Haemophilus gallinarum (Hga I)", <u>Proc. Natl. Acad. Sci. (USA)</u> 74:3213-3216 (1977)
	Thomas et al., "Viable Molecular Hybrids of Bacteriophage Lambda and Eukaryotic DNA", <u>Proc. Natl. Acad. Sci. (USA)</u> 71:4579-4583 (1974)
	Green et al., "Targeted deletions of sequences from closed circular DNA", <u>Proc. Natl. Acad. Sci. (USA)</u> 77:2455-2459 (1980)
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	Francois et al., "Inhibition of Restriction Endonuclease Cleavage via Triple Helix Formation by Homopyrimidine Oligonucleotides," <u>Biochemistry</u> 28:9617-9619 (1989)
	Povsic et al., "Triple Helix Formation by Oligonucleotides on DNA Extended to the Physiological pH Range", <u>Journal American Chem. Soc.</u> 111:3059-3061 (1989)
	Quartin et al., "Branch Migration Mediated DNA Labeling and Cloning," <u>Biochemistry</u> 28:8676-8682 (1989)
	Ellwood et al., "Strand Displacement Applied to Assays with Nucleic Acid Probes," <u>Clinical Chemistry</u> 32:1631-1636 (1986)
	Lewin, Chapter 3, "The Topology of Nucleic Acids," and Chapter 4, "Isolating The Gene," in <u>Genes III</u> , John Wiley & Sons (publ.), New York 57-94 (1987)
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	Applicants: Wetmur et al.	
	Filed: August 31, 1999	Group: 1643

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66	4 7 6 6 0 6 4	08/88	Williams et al.	435	6	05/07/84
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↓	5 1 2 4 2 4 6	06/92	Urdea et al.	435	6	04/18/89

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↓	0 3 1 7 0 7 7 B1	1/31/96	EP			
	W 8 0 1 7 3 0 O 7	03/26/87	PCT International			
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	Vary et al., "Nonisotopic Detection Methods for Strand Displacement Assays of Nucleic Acids," <u>Clinical Chemistry</u> 32:1696-1701 (1986)
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	Michelson et al., "Synthetic Polynucleotides" in <u>Prog. Nucleic Acids Research</u> 6:83-141
	Radding et al., "Enzymatic Synthesis of Deoxyribonucleic Acid", <u>Journal Biol. Chem.</u> 237:2869-2876 (1962)
	Inman et al., "Helix-Random Coil Transitions in DNA Homopolymer Pairs", <u>Journal of Molecular Biology</u> 8:452-469 (1964)
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*Signature: [Handwritten Signature]*

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	Capecchi, "Altering the Genome by Homologous Recombination", <u>Science</u> 244:1288-1292 (1989)
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